

Brick and Tileworks on Holker Estate in the 19th century

Mike Davies-Shiel investigated a brickwork shown on the earliest OS map, surveyed in 1847-1848, on Holker Estate at Reakes or Wreakes Cottages, north of Old Park Farm.



He discovered that it produced drainage tiles for much of its life. The tiles were sold to farmers in many hundreds of thousands and some bricks were also made. The effect of

this manufacture was a 'drainage revolution' in the entire district. He suggested that drainage was undertaken on the Holker estate between 1845 and 1875 by looking at payments made in the estate accounts. He did not give any information about Mr. Armstrong who produced the tiles. This article has tried to answer these gaps in the knowledge and make the information about a little known industry available to local people.

Mike Davies-Shiel's research

Mike Davies-Shiel was a geography teacher and local historian, living at Windermere, who was very interested in industrial history. He researched across the Lake District and amongst his research papers deposited at Cumbria Archives (Kendal) following his death there is information about the Cartmel Peninsula.

He noted that the Holker Estate Home Farm paid out regular sums on drainage – between 1845 and 1875. A total of over £8293 was expended on drainage in the Holker Estate and farms: - including Meanhouse and Lady Dyke, Old Park, High Frith, Low Frith, Holker and Cartmel. In 1850, Robert Bibby of Old Park Farm used 37500 tiles and 30 tons of slate (cost £107) draining 34 acres 'in a complete and permanent manner'. John Bibby of High Frith Farm did much draining – most of it at the Landlord's expense. When the 1893 OS map was published (surveyed 1890) the peat moss had been drained and the kiln was marked as 'old brickkiln'.



He quoted from Jonathan Binns *The Agriculture of Lancashire, with suggestions for its Improvement* (Preston, 1851) p105 “green crops have increased four of five fold since the formation of the North Lonsdale Agricultural Society. Draining has been carried on to a considerable extent, in tenacious clay belonging to the Earl of Burlington, who has a tilery at Holker, and another at Sowerby Hall. Formerly the tiles were of a horse - shoe shape, laid on soles of refuse slate; but the pipe tile is now substituted. The drains are three feet deep, and eight yards apart; the cost amounts to about £5 an acre”.

Mike took part in a Cumbria Industrial History Society excavation and took pictures of the brick kiln and sketched it in March 1990. These pictures have been donated to Cumbria Industrial History Society and are available to view online at CASCAT Cumbria Archives online catalogue ref WDMDS/PC/16/151- 162 (accessed 2 March 2021) and an article written about the excavation titled Reake Wood Tile Kiln can be found at <https://www.cumbria-industries.org.uk/tile-making/reake-wood-tile-kiln/> (accessed 2 March 2021).

The establishment of a brickworks on the Holker Estate

I have not found any reference, so far, to the brickworks in Mike’s extensive research notes. Bricks are not a common building material on the Peninsula. The only brick project identified on the Estate was making the bricks for the walled garden. William, as Lord Burlington, who inherited the estate in 1834, was responsible for garden work at Holker including enlarging the garden, building the fountain and adding the walled garden. This would have taken place after the building works on the Hall were completed in about 1838. Perhaps there is information in the Holker Estate account books at Lancashire Archives about when the walled garden was built but because of Coronavirus pandemic the archive cannot be visited. When the OS surveyor visited the area in 1847-8 was the kiln producing bricks for the walled garden or did the surveyor ask a local?

William who lived at Holker full time from 1840, following the death of his wife Blanche, was very interested in and involved with agricultural developments and, with his agent, George Drewry who was appointed in 1845, introduced modern developments to his estates. In George’s obituary in 1896 one of his achievements was reclaiming peat bog throughout the estate. When William inherited the Duke of Devonshire title in 1858, he was only able to spend about 6 months of the year at Holker which continued until his death in 1894.

William Armstrong and Census records

There is no evidence in the 1841 census of a brick or tile maker living on the Cartmel Peninsula but by 1851 the works were producing drain tiles. The man in charge was William Armstrong from Cumberland. By this date the main function of the works appears therefore to have been to make drainage tiles, not bricks, for the estate. Possibly William Armstrong was appointed soon after George Drewry’s arrival in 1845 to start implementing the drainage scheme for the estate.

In 1841 census William Armstrong was living with his mother Elizabeth, and two brothers John and Joseph, at West House, Bowness, Wigton, Cumberland. William was described as a tile maker.

Situated on the Holker Estate between Low Frith Farm and Old Park Farm entries, the 1851 census records an unnamed dwelling occupied by William Armstrong, aged 57 (1794) drainer and drain tile maker employing 1 man, born Wigton, Cumberland (he is in fact 37, see subsequent entries) and he lived there with two people. They were Elizabeth Armstrong, his mother, aged 69 (1782), born Wigton, Cumberland and John Armstrong, his brother, aged 28 (1823), assistant drain tile maker, born Wigton, Cumberland. This is probably Wreakes Cottages as after William's entry there is an uninhabited house. The OS map that was surveyed between 1847 and 1848 does not show the building suggesting that it was built between the OS survey date and the 1851 census.

Elizabeth died in 1853 and was buried at Cartmel on 28 March. I have not been able to identify John in later census returns.

The 1861 census shows William was living at Bank Top, Cark (boarder with John and Grace Fox) and this time his age was given as 47, born 1814, which is his correct age. Occupation was drain tile maker, born Cumberland, at Torpenhow.

In 1871 the census records William was living at Low Birkby (still boarding with John and Grace Fox) and his age was given as 57, born 1814. Occupation was recorded as drain tile maker and place of birth Cumberland, at Torpenhow.

The census of 1881 described William as head of family living in Cark Village, and he was Cooperative store manager aged 67, born in Cumberland. John Fox was described as brother in law and Grace Fox was described as sister. Also living with them was another Grace Fox, aged 4 born in Bradford, described as friend and occupation given as niece to John Fox.

Grace Jennings had married John Fox in 1850. In the 1851 census Grace was living with her mother in law Margaret, a widow, and Margaret's son, her husband, John with 2 of his siblings. She was aged 29 (born 1822) and according to the census entry, born in Sowerby, Yorkshire. In 1861 the birthplace was the same. In 1871 her birthplace was given as Staveley, Yorkshire. In 1881 it was given as Bradford. John and Grace did not have any children, recorded as related, living with them in any of the census returns until 1881. I have been unable to find any information about Grace's birth in 1822 in Bradford area to verify the census information or that John Fox was William's brother in law or that Grace was his sister.

Between the 1871 and the 1881 census John ceased making drain tiles and no other drain tile maker has been identified so probably the works had ceased to operate by 1881. Grace, John's wife, died in 1890 and was buried at Flookburgh.

In the 1891 census William was still living with John and Grace Fox (born 1877), now described as John's granddaughter, in Cark Village. William was 77 years old (1814) but was described as a grocer, retired on own means who was born in Cumberland, Torpenhow.

I have not been able to establish when William died or where he was buried.

1861 census records that one of Reaks Cottages (as the enumerator spelt it) was occupied by John Abbotson, the gamekeeper with his family and the other was marked as uninhabited. Therefore Reakes Cottage only appears to have been connected to the works in the 1851 census. 1871 census they were spelt Wreak Cottages and an agricultural labourer and a gamekeeper were living there.

Development of draining

There is a long history of land drainage in Britain dating back to Roman times. The steady rise of population and the Industrial Revolution in the 18th century meant that more food had to be grown on the better land and subsequently poor, unusable land had to be reclaimed. Government had imposed a duty on bricks and tiles from 1784 but from 1826 the importance of reclaiming wet and marshy land using hollow drainage systems was recognised when bricks and tiles were exempted if “made solely for draining wet and marshy land, provided they are legibly stamped in making with the word DRAIN”. Further acts in 1839 and 1840 continued this exemption until the duty was finally abolished in 1850.

In June 1839 reports about the Marquis of Tweeddale’s drain tile machine from the Farmer’s Magazine were appearing in various newspapers. It was reported that it could make 10,000 drain tiles a day with one man and two boys attending it, as well as 20,000 flat tiles for the drains to lie on. A man and 2 boys could only make 1000 drain tiles per day by hand. The machine made compressed tiles, which were much stronger and less impervious to water and as they were smoother than hand-made tiles they worked like glazed tiles. Stiffer clay could be used and the clay could be used as it was dug. ‘The expense of draining will be paid in three years, but not infrequently in one’.

On the Holker Estate there is evidence of drainage work taking place on former moss land to the north of Holker Hall. In 1838 at the 1st North Lonsdale Agriculture Society meeting John Bibby of Frith was the drainage class winner receiving a cash prize of £5. He had reclaimed a large area of moss land and grown a wheat crop on it, with one of the judges saying it was the best wheat crop he had seen that year (Westmorland Gazette 27 Oct 1838).

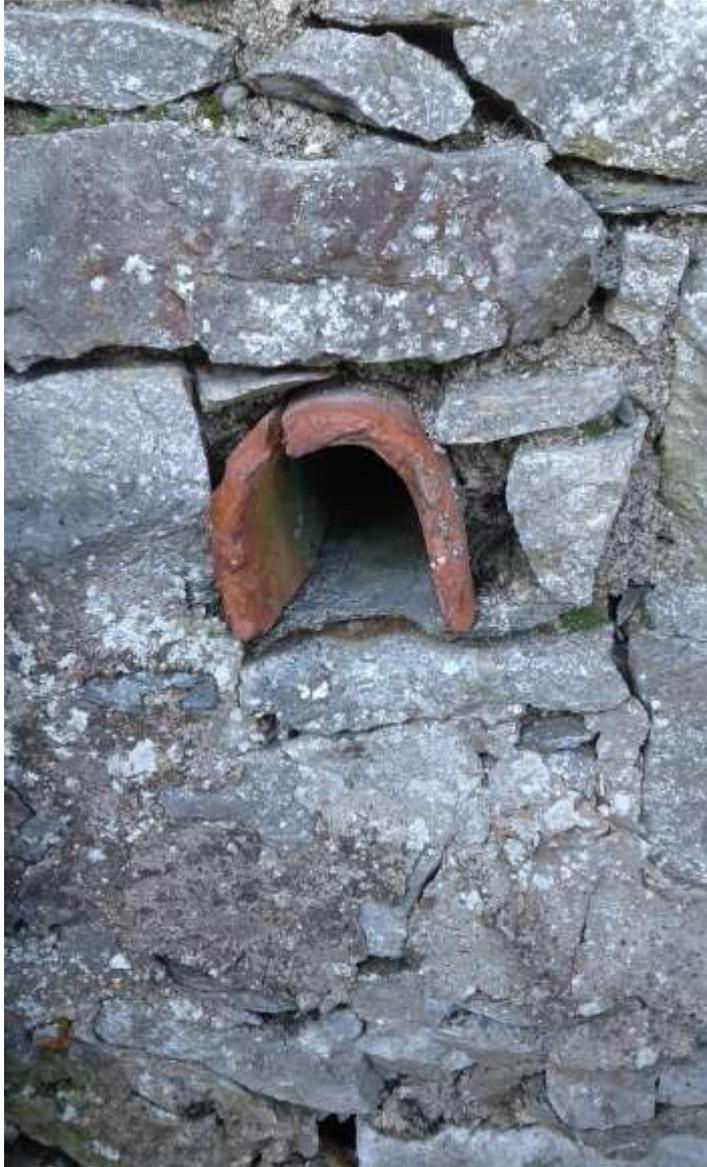
It was only at the 1840 North Lonsdale Show that the type of drainage being undertaken was explained as drainage by sod drains. Sod drains were created by removing the sod of soil to create a shallow trench that was filled with either stone or brushwood and then backfilled. At the 1840 North Lonsdale Agriculture Society Meeting John Bibby of High Frith again received a cash prize of £2 for cutting and finishing 1600 roods of sod drains. (Kendal Mercury 31 October 1840). Robert Bibby of Old Park won the prize of £2 cash at the 1841 meeting for draining in the most effectual and judicious manner the greatest quantity of land in proportion to the size of the farm with sod drains. It was also stated by the chairman that ‘more premiums should be offered for draining, which is the first principle in agriculture, for if the top and sub-water be not got rid of, all the manuring is useless’.

In 1845 an improved tile making machine was invented by Thomas Scragg that enabled clay to be extruded making a hollow tile pipe. Before this clay had to be shaped by hand around a drum and a horse-shoe shape, open on one side, was produced. This would be placed upside down on the floor of the trench or on a base plate before the trench was back filled. Some

discarded, broken, horseshoe pipes were found at the kiln and also some have been incorporated into a cow byre at High Frith showing that they were produced on the estate



Horseshoe shaped drains reused in building
Peter Foggo
Feb 2021



In Sept 1848, at its 2nd meeting since being set up, The Royal North Lancashire Agriculture Society held a discussion on land drainage. Speakers reported that the farmer in the past had allowed water to accumulate and drain away naturally or evaporate. However it was now accepted that water was best allowed to drain through soil and be carried away at a deeper level because rain helped to fertilise the soil. Draining also raised the temperature of the air and made it more-healthy. It was pointed out that a wet farm was an expensive farm as the farmer had to wait for conditions to be suitable for ploughing rather than do it when it suited him. Deep drains were more effective than shallow ones. Lord Burlington was chairman of the meeting and he commented that he practised shallow drainage and found it effective but then added he had little experience in the subject.

Between 1841 and 1848 there were no prizes for drainage of Holker farms but in 1848 a Holker farm was using tiles as well as sod tiles when it was awarded the top prize for drainage. At the 1848 North Lonsdale Agricultural Association meeting John Bibby of High Frith received the premium for draining. He had drained, with tiles, 1269 roods at a cost of £75 0s 9d. He had also cut 754 roods of sod drains at a cost of £10 0s 11d. It was reported that the drains were between three and six foot. It was considered that the land was judiciously drained, at a competitive cost.

In 1849 at the meeting of the North Lonsdale Agricultural Association, both Old Park and High Frith farmers, Robert and John Bibby, were commended for their drainage efforts, each having drained about 24 acres of moss land with the drains averaging between 3 and 4 feet. They were praised for the heavy quantity of crops that they grew on moss soil and it was said by the judges 'we do not remember ever seeing any at all equal to them' (Westmorland Gazette 27 October 1849).

Currently it is not possible to categorically state the dates when the brick and tile works was established or closed. I suggest that it was originally established to create bricks for the walled garden and after the arrival in 1845 of George Drewry it was decided that it was a suitable location to make drain tiles.

The wood where the kiln was located is now named Drain Tile Wood on some maps. As the kiln is on private land access is not possible to see what the condition of the ruins are like but from the pictures taken 30 years ago in 1990 it is unlikely there will be anything of interest remaining.

Pat Rowland, March 2021